



**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**

**M.Sc. DEGREE EXAMINATION - ZOOLOGY**

**THIRD SEMESTER – NOVEMBER 2011**

**ZO 3810 - INTEGRATED PHYSIOLOGY**

Date : 02-11-2011  
Time : 9:00 - 12:00

Dept. No.

Max. : 100 Marks

**PART – A**

**Answer ALL the questions**

**(10 X 2 =20 Marks)**

1. Define cyclomorphosis and comment on its significance.
2. What are xenobiotics ? Mention their implication.
3. Distinguish osmoregulators from osmoconformers.
4. Outline the urea cycle.
5. What do you mean by denning and lapse rate ?
6. What do you know about Cushing's syndrome and Hashimoto's thyroiditis ?
7. Sketch the structure of haemoglobin.
8. State the free radical theory of ageing.
9. Comment on sleep - wake rhythm of type II diabetic patients.
10. Expand GFP and DHEA.

**PART-B**

**Answer any FOUR questions**

**(4 X 10 =40 Marks)**

11. Highlight the mechanism of micturition.
12. What are the osmoregulatory challenges faced by the fresh water and marine fish ?
13. Illustrate the anatomy of an excitatory synapse with a note on its dual functions.
14. Elucidate the biochemical physiology of bioluminescence.
15. Examine the physiology of cardiac muscles in terms of action potential and plateau.
16. How do you infer glucocorticoid cascade hypothesis?

**PART-C**

**Answer any TWO questions**

**(2 X 20= 40 Marks)**

17. Evaluate the scope of chronobiology in terms of biological rhythms.
18. Examine the domains of electroneurophysiology of hearing.
19. Discuss the neuroendocrine coordination of homeothermy.
20. Illustrate oxygen dissociation curves to show the exchange of gases between the respiratory and circulatory organs.

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